

1 IAP5 Rec'd PCT/PTO 25 AUG 2006

10/590691

SEQUENCE LISTING

<110> AstraZeneca AB

<120> Methods

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<150> SE 0400564-1

<151> 2004-03-05

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<170> PatentIn version 3.1

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 45 Arg Ile
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 5 Glu Ala Thr Glu Lys Arg Phe Phe Lys Asn Val Ser Ile Leu Ile
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 Arg Asp Glu Pro Tyr Thr Lys Gln Phe Thr Glu Cys Gly Glu Lys Gly
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 Ala Lys Ser Lys Lys Ile Glu Ala Thr Arg Cys Ser Ala Gly Ile Ser
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 20 Gly Arg Asn Arg Val Tyr Lys Cys Gln Gly Ser Cys Leu Ser Arg
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 260 265 270
 30 Trp Glu Val Ile Ser Asn Ser Glu Asp Phe Lys Asn Thr Ile Pro Met
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 35 Arg Ile
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 Leu Phe Asn Ala Thr Lys Arg Arg Val Phe Phe Arg Asn Ile Lys Ile
 65 70 75 80
 55 Leu Ile Pro Ala Thr Trp Lys Ala Asn Asn Ser Lys Ile Lys Gln
 85 90 95
 Glu Ser Tyr Glu Lys Ala Asn Val Ile Val Thr Asp Trp Tyr Gly Ala
 100 105 110

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 115 120 125
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 5 Thr Ala Gly Tyr Gly Ser Arg Gly Arg Val Phe Val His Glu Trp Ala
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 Tyr Ile Asn Gly Gln Asn Gln Ile Lys Val Thr Arg Cys Ser Ser Asp
 10 180 185 190
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 Cys Ile Ile Ser Lys Leu Phe Lys Glu Gly Cys Thr Phe Ile Tyr Asn
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 Asn Leu Gln Asn Gln Met Cys Ser Leu Arg Ser Ala Trp Asp Val Ile
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 Thr Lys Gln Arg Ala Tyr Phe Arg Asn Val Ser Ile Leu Ile Pro Met
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 Thr Tyr Lys Ser Lys Ser Glu Tyr Leu Ile Pro Lys Gln Glu Thr Tyr
 85 90 95
 45 Asp Gln Ala Asp Val Ile Val Ala Asp Leu Tyr Leu Lys Tyr Gly Asp
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 Asp Pro Tyr Thr Leu Gln Tyr Gly Gln Cys Gly Asp Lys Gly Gln Tyr
 115 120 125
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 Gly Val Phe Asp Glu Tyr Asn Val Asp Gln Pro Phe Tyr Ile Ser Arg
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 55 Arg Asn Thr Thr Glu Ala Thr Arg Cys Ser Thr Arg Ile Thr Val Tyr
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 Met Val Leu Asn Glu Cys Lys Gly Ala Ser Cys Ile Ala Arg Pro Phe
 195 200 205

Arg Arg Asp Ser Gln Thr Gly Leu Tyr Glu Ala Lys Cys Thr Phe Ile
 210 215 220

Pro Lys Arg Ser Gln Thr Ala Lys Glu Ser Ile Val Phe Met Gln Asn
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<212> PRT

<213> Mus musculus

15 <400> 6

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Asn Tyr Ser Arg Val Arg Gln Glu Ser Tyr Asp Lys Ala Asn Val Ile
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Val Ala Glu Gln Ser Glu Glu His Gly Asp Asp Pro Tyr Thr Leu Gln
 85 90 95

His Arg Gly Cys Gly Gln Glu Gly Arg Tyr Ile His Phe Thr Pro Ser
 100 105 110

30 Phe Leu Leu Asn Asp Glu Leu Ala Ala Gly Tyr Gly Ala Arg Gly Arg
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Val Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe Asp Glu
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Tyr Asn Asn Asp Lys Pro Phe Tyr Val Asn Gly Arg Asn Glu Ile Gln
 35 145 150 155 160

Val Thr Arg Cys Ser Ser Asp Ile Thr Gly Val Phe Val Cys Glu Lys
 165 170 175

Gly Leu Cys Pro His Glu Asp Cys Ile Ile Ser Lys Ile Phe Arg Glu
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40 Gly Cys Thr Phe Leu Tyr Asn Ser Thr Gln Asn Ala Thr Gly Ser Ile
 195 200 205

Met Phe Met Pro Ser Leu Pro Ser Val Val Glu Phe Cys Asn Glu Ser
 210 215 220

Thr His Asn Gln Glu Ala Pro Asn Leu Gln Asn Gln Val Cys Ser Leu
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Arg Ser Thr Trp Asp Val Ile Thr Ala Ser Ser Asp Leu Asn His Ser
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<210> 7

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<212> PRT

<213> Mus musculus

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Gly Val Val Ile Ala Ile Asn Pro Ser Val Pro Glu Asp Glu Arg Leu
35 40 45
Ile Pro Ser Ile Lys Glu Met Val Thr Gln Ala Ser Thr Tyr Leu Phe
50 55 60
10 Glu Ala Ser Gln Gly Arg Val Tyr Phe Arg Asn Ile Ser Ile Leu Val
65 70 75 80
Pro Met Thr Trp Lys Ser Lys Pro Glu Tyr Leu Met Pro Lys Arg Glu
85 90 95
Ser Tyr Asp Lys Ala Asp Val Ile Val Ala Asp Pro His Leu Gln His
15 100 105 110
Gly Asp Asp Pro Tyr Thr Leu Gln Tyr Gly Gln Cys Gly Asp Arg Gly
115 120 125
Gln Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Thr Asp Asn Leu Arg
130 135 140
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145 150 155 160
Arg Trp Gly Val Phe Asp Glu Tyr Asn Val Asp Gln Pro Phe Tyr Met
165 170 175
Ser Arg Lys Asn Thr Ile Glu Ala Thr Arg Cys Ser Thr Arg Ile Thr
25 180 185 190
Gly Thr Asn Val Val His Asn Cys Glu Arg Gly Asn Cys Val Thr Arg
195 200 205
Ala Cys Arg Arg Asp Ser Lys Thr Arg Leu Tyr Glu Pro Lys Cys Thr
210 215 220
30 Phe Ile Pro Asp Lys Ile Gln Thr Ala Gly Ala Ser Ile Met Phe Met
225 230 235 240
Gln Asn Leu Asn Ser Val Val Glu Phe Cys Thr Glu Lys Asn His Asn
245 250 255
Ala Glu Ala Pro Asn Leu Gln Asn Lys Met Cys Asn Arg Arg Ser Thr
35 260 265 270
Trp Asp Val Ile Lys Thr Ser Ala Asp Phe Gln Asn Ala Pro Pro Met
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Arg Gly Thr Glu Ala Pro Pro Pro Pro Thr Phe Ser Leu Leu Lys Ser
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40 Arg Arg Arg Val
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45 <210> 8
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<212> PRT
<213> Mus musculus

50 <400> 8
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Gly Val Val Ile Ala Ile Asn Pro Ser Val Pro Glu Asp Glu Arg Leu
35 40 45
Ile Pro Ser Ile Lys Glu Met Val Thr Gln Ala Ser Thr Tyr Leu Phe
50 55 60

Glu Ala Ser Gln Gly Arg Val Tyr Phe Arg Asn Ile Ser Ile Leu Val
 65 70 75 80
 Pro Met Thr Trp Lys Ser Lys Ser Glu Tyr Leu Met Pro Lys Arg Glu
 85 90 95
 5 Ser Tyr Asp Lys Ala Asp Val Ile Val Ala Asp Pro His Leu Gln His
 100 105 110
 Gly Asp Asp Pro Tyr Thr Leu Gln Tyr Gly Gln Cys Gly Asp Arg Gly
 115 120 125
 Gln Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Thr Asp Asn Leu Arg
 130 135 140
 10 Ile Tyr Gly Pro Arg Gly Arg Val Phe Val His Glu Trp Ala His Leu
 145 150 155 160
 Arg Trp Gly Val Phe Asp Glu Tyr Asn Val Asp Arg Pro Phe Tyr Ile
 165 170 175
 15 Ser Arg Lys Asn Thr Ile Glu Ala Thr Arg Cys Ser Ala Ser Ile Thr
 180 185 190
 Gly Lys Lys Val Val His Glu Cys Gln Arg Gly Ser Cys Val Thr Arg
 195 200 205
 Ala Cys Arg Arg Asp Ser Lys Thr Arg Leu Tyr Glu Pro Lys Cys Thr
 210 215 220
 20 Phe Ile Pro Asp Lys Ile Gln Thr Ala Gly Ala Ser Ile Met Phe Met
 225 230 235 240
 Gln Asn Leu Asn Ser Val Val Glu Phe Cys Thr Glu Asn Asn His Asn
 245 250 255
 25 Ala Glu Ala Pro Asn Leu Gln Asn Lys Met Cys Asn Arg Arg Ser Thr
 260 265 270
 Trp Asp Val Ile Lys Ala Ser Ala Asp Phe Gln Asn Ser Pro Pro Met
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 Arg Gly Thr Glu Ala Pro Pro Pro Thr Phe Ser Leu Leu Lys Ser
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 Arg Arg Arg Val
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35 <210> 9
 <211> 307
 <212> PRT
 <213> **Mus musculus**

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 45 Glu Gly Ile Val Ile Ala Ile Asp His Asp Val Pro Glu Asp Glu Ala
 35 40 45
 Leu Ile Gln His Ile Lys Asp Met Val Thr Gln Ala Ser Pro Tyr Leu
 50 55 60
 Phe Glu Ala Thr Gly Lys Arg Phe Tyr Phe Lys Asn Val Ala Ile Leu
 55 65 70 75 80
 Ile Pro Glu Ser Trp Lys Ala Lys Pro Glu Tyr Thr Arg Pro Lys Leu
 85 90 95
 Glu Thr Phe Lys Asn Ala Asp Val Leu Val Ser Thr Thr Ser Pro Leu
 100 105 110
 55 Gly Asn Asp Glu Pro Tyr Thr Glu His Ile Gly Ala Cys Gly Glu Lys
 115 120 125
 Gly Ile Arg Ile His Leu Thr Pro Asp Phe Leu Ala Gly Lys Lys Leu
 130 135 140

Thr Gln Tyr Gly Pro Gln Asp Arg Thr Phe Val His Glu Trp Ala His
 145 150 155 160
 Phe Arg Trp Gly Val Phe Asn Glu Tyr Asn Asn Asp Glu Lys Phe Tyr
 165 170 175
 5 Leu Ser Lys Gly Lys Pro Gln Ala Val Arg Cys Ser Ala Ala Ile Thr
 180 185 190
 Gly Lys Asn Gln Val Arg Arg Cys Gln Gly Gly Ser Cys Ile Thr Asn
 195 200 205
 Gly Lys Cys Val Ile Asp Arg Val Thr Gly Leu Tyr Lys Asp Asn Cys
 10 210 215 220
 Val Phe Val Pro Asp Pro His Gln Asn Glu Lys Ala Ser Ile Met Phe
 225 230 235 240
 Asn Gln Asn Ile Asn Ser Val Val Glu Phe Cys Thr Glu Lys Asn His
 245 250 255
 15 Asn Gln Glu Ala Pro Asn Asp Gln Asn Gln Arg Cys Asn Leu Arg Ser
 260 265 270
 Thr Trp Glu Val Ile Gln Glu Ser Glu Asp Phe Lys Gln Thr Thr Pro
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 Gln Arg Ile
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25 <210> 10
 <211> 308
 <212> PRT
 <213> Mus musculus

30 <400> 10
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 35 40 45
 Ile Pro Ser Ile Lys Glu Met Val Thr Gln Ala Ser Thr Tyr Leu Phe
 50 55 60
 Glu Ala Thr Glu Arg Arg Phe Tyr Phe Arg Asn Val Ser Ile Leu Val
 40 65 70 75 80
 Pro Ile Thr Trp Lys Ser Lys Thr Glu Tyr Leu Thr Pro Lys Gln Glu
 85 90 95
 Ser Tyr Asp Gln Ala Asp Val Ile Val Ala Asp Pro His Leu Gln His
 100 105 110
 45 Gly Asp Asp Pro Tyr Thr Leu Gln Tyr Gly Gln Cys Gly Asp Arg Gly
 115 120 125
 Gln Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Thr Asp Asn Leu Gly
 130 135 140
 Ile Tyr Gly Pro Arg Gly Arg Val Phe Val His Glu Trp Ala His Leu
 50 145 150 155 160
 Arg Trp Gly Val Phe Asp Glu Tyr Asn Met Asp Arg Pro Phe Tyr Met
 165 170 175
 Ser Arg Lys Asn Thr Val Glu Ala Thr Arg Cys Ser Thr Asp Ile Thr
 180 185 190
 55 Gly Thr Ser Val Val Arg Glu Cys Gln Gly Gly Ser Cys Val Ser Arg
 195 200 205
 Arg Cys Arg Arg Asp Ala Lys Thr Gly Met Gln Glu Ala Lys Cys Thr
 210 215 220

Phe Ile Pro Asn Lys Ser Gln Thr Ala Arg Gly Ser Ile Met Phe Met
 225 230 235 240
 Gln Ser Leu Asp Ser Val Val Glu Phe Cys Thr Glu Lys Thr His Asn
 245 250 255
 5 Val Glu Ala Pro Asn Leu Gln Asn Lys Met Cys Asn Leu Arg Ser Thr
 260 265 270
 Trp Asp Val Ile Lys Ala Ser Ala Asp Phe Gln Asn Ala Ser Pro Met
 275 280 285
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 10 290 295 300
 Arg Gln Arg Val
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15 <210> 11
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 <212> PRT
 <213> Sus scrofa

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 25 Glu Gly Ile Val Ile Ala Ile Asp Pro Asn Val Pro Glu Asp Glu Arg
 35 40 45
 Leu Ile Gln Asn Ile Lys Asp Met Val Thr Lys Ala Ser Pro Tyr Leu
 50 55 60
 Phe Glu Ala Thr Glu Lys Arg Phe Tyr Phe Lys Asn Val Ala Ile Leu
 30 65 70 75 80
 Ile Pro Ala Ser Trp Lys Ala Lys Pro Glu Tyr Val Lys Pro Lys Leu
 85 90 95
 Glu Thr Tyr Lys Asn Ala Asp Val Val Val Thr Glu Pro Asn Pro Pro
 100 105 110
 35 Glu Asn Asp Gly Pro Tyr Thr Glu Gln Met Gly Asn Cys Gly Glu Lys
 115 120 125
 Gly Glu Lys Ile Tyr Phe Thr Pro Asp Phe Val Ala Gly Lys Lys Val
 130 135 140
 Leu Gln Tyr Gly Pro Gln Gly Arg Val Phe Val His Glu Trp Ala His
 40 145 150 155 160
 Leu Arg Trp Gly Val Phe Asn Glu Tyr Asn Asn Glu Gln Lys Phe Tyr
 165 170 175
 Leu Ser Asn Lys Lys Glu Gln Pro Val Ile Cys Ser Ala Ala Ile Arg
 180 185 190
 45 Gly Thr Asn Val Leu Pro Gln Cys Gln Gly Ser Cys Val Thr Lys
 195 200 205
 Pro Cys Arg Ala Asp Arg Val Thr Gly Leu Phe Gln Lys Glu Cys Glu
 210 215 220
 Phe Ile Pro Asp Pro Gln Gln Ser Glu Lys Ala Ser Ile Met Phe Ala
 50 225 230 235 240
 Gln Ser Ile Asp Thr Val Val Glu Phe Cys Lys Glu Lys Asn His Asn
 245 250 255
 Lys Glu Ala Pro Asn Asp Gln Asn Gln Lys Cys Asn Leu Arg Ser Thr
 260 265 270
 55 Trp Glu Val Ile Gln Asp Ser Glu Asp Phe Lys Lys Thr Thr Pro Met
 275 280 285
 Thr Thr Gln Pro Pro Ala Pro Thr Phe Ser Leu Leu Gln Ile Gly Gln
 290 295 300

Arg Ile
305

5 <210> 12
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 <212> PRT
 <213> Bos taurus

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15 Gly Ile Val Ile Ala Ile Asn Pro Ser Val Pro Glu Asp Glu Lys Leu
 35 40 45
Ile Gln Asn Ile Lys Glu Met Val Thr Glu Ala Ser Thr Tyr Leu Phe
50 55 60
His Ala Thr Lys Arg Arg Val Tyr Phe Arg Asn Val Ser Ile Leu Ile
20 65 70 75 80
Pro Met Thr Trp Lys Ser Lys Ser Glu Tyr Leu Met Pro Lys Gln Glu
85 90 95
Ser Tyr Asp Gln Ala Glu Val Ile Val Ala Asn Pro Tyr Leu Lys His
100 105 110
25 Gly Asp Asp Pro Tyr Thr Leu Gln Tyr Gly Arg Cys Gly Glu Lys Gly
 115 120 125
Gln Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Thr Asn Asn Leu Pro
130 135 140
Ile Tyr Gly Ser Arg Gly Arg Ala Phe Val His Glu Trp Ala His Leu
30 145 150 155 160
Arg Trp Gly Ile Phe Asp Glu Tyr Asn Gly Asp Gln Pro Phe Tyr Ile
165 170 175
Ser Arg Arg Asn Thr Ile Glu Ala Thr Arg Cys Ser Thr His Ile Thr
180 185 190
35 Gly Thr Asn Val Ile Val Lys Cys Gln Gly Gly Ser Cys Ile Thr Arg
 195 200 205
Pro Cys Arg Arg Asp Ser Gln Thr Gly Leu Tyr Glu Ala Lys Cys Thr
210 215 220
Phe Ile Pro Glu Lys Ser Gln Thr Ala Arg Glu Ser Ile Met Phe Met
40 225 230 235 240
Gln Ser Leu His Ser Val Thr Glu Phe Cys Thr Glu Lys Thr His Asn
245 250 255
Val Glu Ala Pro Asn Leu Gln Asn Lys Met Cys Asn Gly Lys Ser Thr
260 265 270
45 Trp Asp Val Ile Met Asn Ser Thr Asp Phe Gln Asn Thr Ser Pro Met
 275 280 285
Thr Glu Met Asn Pro Pro Thr Gln Pro Thr Phe Ser Leu Leu Lys Ser
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50 Lys Gln Arg Val
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 <212> PRT
 <213> Ciona intestinalis

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 35 40 45
 Phe Asp Glu Thr Tyr Asp Ala Ala Asp Val Val Val Thr Asn Thr Asn
 50 55 60
 15 Arg Val Arg Gly Asn Ile Pro Tyr Val Leu Gln Pro Gly Gly Cys Gly
 65 70 75 80
 Glu Pro Gly Thr Arg Ile Phe Thr Thr Arg Asp Tyr Tyr Thr Asn Asp
 85 90 95
 Thr Tyr Val Glu Ser Phe Gly Gln Arg Gly Lys Val Met Val His Glu
 20 100 105 110
 Trp Ser His Tyr Arg Trp Gly Val Phe Asp Glu Ile Ala Ser Gly Asp
 115 120 125
 Tyr Ala Pro Phe Tyr Ile Ser Ser Thr Gly Thr Ile Glu Ala Thr Arg
 130 135 140
 25 Cys Ser Leu Gly Ile Gln Gly Glu Asn Met Ile Val Gln Asn Asn Glu
 145 150 155 160
 Ile Val Gln Asp Val Cys Asn Tyr Asp Pro Gln Thr Leu Leu Pro Asn
 165 170 175
 Ser Thr Asp Cys Lys Phe Ile Leu Ala Trp Asp Gln Asp Leu Asp Leu
 30 180 185 190
 Lys Ala Ser Ile Met Ser Tyr Gln Tyr Val Asn Glu Ile Asn Gly Phe
 195 200 205
 Cys Asp Asp Asn Asp Asn Asp Pro Leu Asn Arg His Asn Arg Glu Ala
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 35 Pro Asn Glu His Asn Asp Lys Cys Asn Lys Arg Ser Val Trp Asp Val
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 20 25 30

Ser Tyr Phe Gly Glu Ile Thr Ile Leu Ile Pro Lys Thr Trp Ser Lys
 35 40 45
 Xaa Lys Leu Val Ile Asn Gly Ser Glu Ser Tyr Glu Thr Ala Asp Val
 50 55 60
 5 Leu Ile Ala Glu Ala Asn Pro Val Tyr Gln Asp Thr Pro Tyr Thr Leu
 65 70 75 80
 Gln Tyr Gly Asn Cys Gly Glu Thr Ala Ser Tyr Ile His Leu Thr Pro
 85 90 95
 Asp Tyr Leu Thr Asn Gln Ser Phe Val Glu Asp Phe Gly Pro Arg Gly
 10 100 105 110
 Lys Ala Ile Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe Asp
 115 120 125
 Glu Thr Tyr Thr Thr Gly Tyr Ser Pro Tyr Tyr Asp Ser His Gly
 130 135 140
 15 Thr Val Gln Ala Thr Arg Cys Pro Ser Thr Leu Asp Gly Lys Asn Lys
 145 150 155 160
 Val Val Asp Tyr Ser Thr Gly Asn Ser Arg Asp Cys Gln Arg Asn Leu
 165 170 175
 Glu Asn Gly Leu Met Glu Asp Gly Cys Leu Phe Leu Pro Tyr Ala Glu
 20 180 185 190
 Gln Ser Ala Asp Leu Thr Thr Ser Leu Met Ser His Gln Tyr Leu Ser
 195 200 205
 Gln Val Thr Met Phe Cys His Asn Asp Glu Thr Asp Ser Tyr Asn His
 210 215 220
 25 His Asn Arg Glu Ala Pro Asn Glu Gln Asn Arg Leu Cys Asp Leu Lys
 225 230 235 240
 Ser Ala Trp Glu Val Ile Met Glu Ser Lys Asp Phe Leu Asn Asn Ala
 245 250 255
 Asn Pro Arg Asn Met Val Xaa Asn Thr Asn Pro Ile Phe Arg Leu Val
 30 260 265 270
 Gln Ile

<210> 15
 35 <211> 282
 <212> PRT
 <213> Ciona intestinalis

<400> 15
 40 Val Thr Leu Val Asn Asn Gly Tyr Asp Gly Ile Val Val Ala Ile Asn
 1 5 10 15
 Pro Ala Val Ala Glu Asp Glu Thr Leu Ile Asn Lys Ile Arg Asn Met
 20 25 30
 Phe Thr Arg Ala Ser Pro Thr Leu Phe Thr Ala Thr Lys Lys Arg Ala
 45 35 40 45
 Tyr Phe Arg Asn Ile Asn Ile Leu Val Pro Lys Thr Trp Thr Ser Gly
 50 55 60
 Ser Tyr Gln Thr Ala Val Gly Leu Thr Tyr Arg Lys Ala Asp Val Ile
 65 70 75 80
 50 Ile Ala Pro Pro Asn Pro Val Arg Gly Asp Asn Pro Tyr Val Leu Gln
 85 90 95
 Thr Gly Ala Cys Gly Glu Pro Gly Thr His Met His Leu Thr Pro Glu
 100 105 110
 Trp Val Asn Asp Thr Arg Glu Ser Val Tyr Gly Pro Ser Asp Lys Ala
 115 120 125
 Ile Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe Asp Glu Tyr
 130 135 140

Ala Thr Gly Asp His Lys Arg His Tyr Leu Asp Ser Asn Asn Val Leu
 145 150 155 160
 Gln Gly Thr Arg Cys Pro Leu Ser Ile Arg Gly Val Asn Arg Glu Tyr
 165 170 175
 5 Val Pro Pro Tyr Gln Val Leu Asn Gln Thr Cys Ile Ile Asn Gln Thr
 180 185 190
 Thr Leu Leu Pro Ala Ser Asp Thr Cys His Phe Ile Pro Gly Ile Glu
 195 200 205
 Gln Pro Arg Gly Leu Lys Thr Ser Met Met Phe Tyr Ser Tyr Leu Ser
 10 210 215 220
 Ser Val Ile Glu Phe Cys His Ser Asp Pro Ser Asp Pro Val Asn Gln
 225 230 235 240
 His Asn Thr Glu Ala Asp Asn Glu Gln Asn Ala Lys Cys Asn Leu Arg
 245 250 255
 15 Ser Thr Trp Asp Val Ile Thr Ser Thr Ser Asp Phe Ser Gly Gly Ser
 260 265 270
 Asn Pro Pro Asn Pro Thr Leu Thr Asn Leu
 275 280

20 <210> 16
 <211> 286
 <212> PRT
 <213> Ciona intestinalis

25 <400> 16
 Ser Glu Val Asn Leu Val Asn Asn Gly Tyr Glu Gly Ile Val Val Ala
 1 5 10 15
 Ile Asn Pro Ser Ile Pro Glu Asp Ala Ser Leu Val Asp Asn Ile Lys
 30 20 25 30
 Thr Leu Leu Asn Glu Ala Ser Pro Ile Leu Trp Ser Ala Thr Lys Asn
 35 40 45
 Arg Ala Tyr Phe Gly Glu Val Thr Ile Leu Val Pro Ser Thr Trp Thr
 50 55 60
 35 Gly Ser Tyr Thr Gln Ala Thr His Gly Gln Val Tyr Asn Lys Ala Asp
 65 70 75 80
 Ile Ile Val Ala Asp Pro Asn Pro Gln Tyr Met Asp Thr Pro Tyr Thr
 85 90 95
 Ile Gln Tyr Gln Gln Cys Gly Asp Pro Gly Glu Tyr Ile His Leu Thr
 40 100 105 110
 Pro Asn Phe Leu Ser Gln Ala Gly Tyr Glu Gln Asn Tyr Gly Asn Lys
 115 120 125
 Gly Lys Ala Leu Val His Glu Trp Ala His Leu Arg Trp Gly Val Tyr
 130 135 140
 45 Asp Glu Tyr Ala Ser Glu Gly Tyr Ala Pro Phe Tyr Tyr Ser Asn Arg
 145 150 155 160
 Gly Gly Gly Gln Pro Tyr Met Glu Ala Thr Arg Cys Pro Leu Ala Leu
 165 170 175
 Gly Gly Val Thr Arg Tyr Pro Asn Pro Ala Asn Gly Asn Gln Leu Glu
 50 180 185 190
 His Cys Thr Ser Asp Pro Asn Asn Phe Leu Pro Leu Glu Gly Cys
 195 200 205
 Leu Phe Phe Pro Phe Ser Glu Leu Gly Gln Pro Asp Asp Leu Ser Ala
 210 215 220
 55 Ser Leu Leu Ser His Gln Phe Val Asp Gln Val Val Asp Phe Cys His
 225 230 235 240
 Asn Asp Thr Asn Asp Pro Thr Asn Leu His Asn Lys Glu Ala Pro Asn
 245 250 255

Glu His Asn Arg Leu Cys Asp Gln Arg Ser Val Trp Glu Ile Met Met
 260 265 270
 Ala Ser Arg Asp Phe Asn Ala Val Asn His Pro Asn Pro Thr
 275 280 285

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<210> 17
 <211> 273
 <212> PRT
 10 <213> Ciona intestinalis
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 <222> (267)..(267)
 <223> any natural amino acid residue
 15 <400> 17
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 1 5 10 15
 Pro Ser Ile Pro Glu Asp Gln Asp Leu Ile Asn Asn Ile Lys Ala Leu
 20 20 25 30
 Leu Asn Glu Ala Ser Pro Ile Leu Trp Ser Ala Thr Lys Asn Arg Ala
 35 40 45
 Tyr Phe Gly Glu Val Thr Ile Leu Val Pro Ser Thr Trp Thr Gly Ser
 50 55 60
 25 Tyr Thr Gln Ala Thr His Gly Gln Val Tyr Asn Lys Ala Asp Ile Ile
 65 70 75 80
 Val Ala Asp Pro Asn Pro Gln Tyr Met Asp Thr Pro Tyr Thr Ile Gln
 85 90 95
 Tyr Gln Gln Cys Gly Asp Pro Gly Glu Tyr Ile His Leu Thr Pro Asn
 30 100 105 110
 Phe Ile Asn Glu Lys Asn Asp Phe Val Glu Asn Tyr Gly Ser Lys Gly
 115 120 125
 Lys Ala Leu Val His Glu Trp Ala His Leu Arg Trp Gly Ile Tyr Asp
 130 135 140
 35 Glu Tyr Ala Ser Glu Gly Tyr Asp Pro Phe Tyr Tyr Ser Ser Thr Gln
 145 150 155 160
 Tyr Val Gln Pro Thr Leu Glu Ala Thr Arg Cys Pro Leu Ser Val Ala
 165 170 175
 Gly Met Met Leu Tyr Leu Asp Pro Leu Ser Gly Lys Phe Glu Phe Cys
 40 180 185 190
 Thr Ser Asn Pro Glu Asn Asn Phe Leu Pro Glu Gly Cys Ile Phe
 195 200 205
 Phe Pro Arg Ser Lys Glu Gly Gln Pro Ala Asp Leu Ile Tyr Ser Phe
 210 215 220
 45 Ser Leu Thr Gln Val Val Asp Phe Cys His Asn Asp Thr Asn Asp Pro
 225 230 235 240
 Thr Asn Leu His Asn Lys Glu Ala Pro Asn Glu His Asn Arg Leu Cys
 245 250 255
 Asp Gln Arg Ser Val Trp Glu Val Met Asn Xaa Ser Ser Asp Phe Lys
 50 260 265 270
 Gln

55 <210> 18
 <211> 279
 <212> PRT
 <213> Ciona intestinalis

<400> 18
 Val Lys Leu Gln Ser Asn Gly Tyr Asp Gly Val Leu Val Ala Ile Asn
 1 5 10 15
 Pro Ala Val Pro Glu Asn Glu Thr Leu Ile Arg Asn Ile Arg Ala Ser
 5 20 25 30
 Ile Asp Leu Ile Gly Ala Thr Ser Ser His Ser Leu Phe Ile Leu Thr
 35 40 45
 Lys Lys Arg Ala Tyr Phe Arg Asn Ile Asn Ile Leu Val Pro Lys Thr
 50 55 60
 10 Trp Thr Gly Ala Arg Tyr Asp Thr Ala Ile Gly Leu Ser Tyr Arg Lys
 65 70 75 80
 Ala Asp Val Ile Val Ala Pro Ala Asn Ser Ala Lys Gly Asn Asn Pro
 85 90 95
 Tyr Thr Arg Gln Thr Gly Gly Cys Gly Asp Pro Gly Thr Tyr Ile His
 15 100 105 110
 Ile Thr Pro Glu Tyr Val Tyr Asn Pro Gln Glu His Leu Tyr Gly Pro
 115 120 125
 Arg Gly Lys Lys Ala Ile Val His Glu Trp Ser His Leu Arg Trp Gly
 130 135 140
 20 Val Phe Asp Glu Tyr Ala Thr Gly Asn His Lys Arg His Tyr Ile Asp
 145 150 155 160
 Ser Asn Asn Ile Leu Gln Ala Thr Arg Cys Pro Leu Ser Leu Arg Gly
 165 170 175
 Met Asn Ile Glu Tyr Ala Pro Pro Tyr Asn Thr Arg Cys Ala Val Asn
 25 180 185 190
 Arg Ser Ser Leu Leu Pro Leu Thr Glu Asn Cys Tyr Phe Phe Pro Ala
 195 200 205
 Ser Arg Gln Pro Arg Gly Leu Asn Ser Ser Met Met Ser Phe Ser Tyr
 210 215 220
 30 Leu His Ser Val Glu Ala Phe Cys His Asn Asp Pro Asn Glu Pro Ile
 225 230 235 240
 Asn Phe His Asn Ser Glu Ala Asp Asn Glu Gln Asn Ala Lys Cys Asn
 245 250 255
 Leu Lys Ser Leu Trp Glu Val Ile Gly Ala Ser Pro Asp Phe Arg Glu
 35 260 265 270
 Gly Ala Asn Pro Pro Asn Pro
 275

40 <210> 19
 <211> 241
 <212> PRT
 <213> Danio rerio

45 <400> 19
 Ser Val Phe Val Val Leu Trp Met Leu Leu Pro Tyr Pro Phe Thr Gly
 1 5 10 15
 Ile Lys Leu Asp Gly Gly Tyr Val Asp Ile Ser Ile Ala Ile Gly
 20 25 30
 50 Ala Lys Val Lys Gln Asp Asp Thr Leu Ile Asp Lys Ile Lys Glu Met
 35 40 45
 Val Thr Asp Gly Ser Phe Tyr Leu Tyr His Ala Leu Asp Lys Lys Val
 50 55 60
 Tyr Leu Lys Asp Ala Thr Ile Leu Val Pro Ser Gln Trp Ser Cys Lys
 65 70 75 80
 Ser Cys Ser Ile Ala Arg Thr Glu Leu Phe Glu Lys Ala Gln Ile Lys
 85 90 95

Ile Asp His Ala Lys Leu Met Glu Pro Arg Thr Lys Leu Tyr Gly Glu
100 105 110
Cys Gly Val Gly Gly Glu Tyr Ile His Phe Thr Pro Asp Phe Leu Leu
115 120 125
5 Asn Asp Ser Ala Ile Gln Met Tyr Gly Pro Arg Gly Lys Val Phe Leu
130 135 140
His Glu Trp Ala His Leu Arg Trp Gly Val Tyr Asp Glu Tyr Asn Glu
145 150 155 160
Glu Lys Pro Phe Tyr Leu Ser Asn Gly Arg Val Glu Tyr Thr Arg Cys
10 165 170 175
10 Thr Thr Asn Ile Glu Gly Gln Cys Phe Glu Ile Asn Gly Gly Ser Leu
180 185 190
Gln Ser Cys Arg Ile Asn Pro Glu Thr Phe Leu Pro Ser Ser Asp Cys
195 200 205
15 Glu Leu Ser Pro Asn Lys Asp Gln Asn Thr Asp Ser Ser Val Met Cys
210 215 220
Ser Pro Ser Leu Gln Ser Leu Thr Thr Phe Cys Arg Glu Thr Glu His
225 230 235 240
Asn
20

<210> 20
<211> 268
<212> PRT
25 <213> Gallus gallus
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<223> any natural amino acid residue
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35 <221> MISC_FEATURE
<222> (65)..(65)
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40 <222> (77)..(77)
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<221> MISC_FEATURE
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45 <223> any natural amino acid residue
<220>
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<222> (171)..(171)
<223> any natural amino acid residue
50 <220>
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<222> (172)..(172)
<223> any natural amino acid residue
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<222> (197)..(197)
<223> any natural amino acid residue

<400> 20

Met	Gly	Val	Phe	Arg	Ser	Leu	Ile	Phe	Leu	Leu	Ser	Phe	Gln	Leu	Leu
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His	Val	Ala	Lys	Gly	Ser	Met	Val	Lys	Leu	Asn	Glu	Ser	Gly	Tyr	Glu
5															30
Asp	Leu	Val	Val	Cys	Asn	Xaa	Ser	Gln	Arg	Asp	Arg	Arg	Cys	Gln	His
															45
His	Pro	Glu	His	Lys	Gly	Asn	Asp	Gln	Arg	Cys	Phe	Xaa	Leu	Phe	Val
10															60
Xaa	Ser	Tyr	Lys	Thr	Ser	Ile	Phe	Leu	Gln	Ala	Leu	Xaa	Arg	Ile	Ile
15															80
Leu	Pro	Lys	Thr	Trp	Lys	Asn	Ser	Thr	Tyr	Ser	Arg	Leu	Lys	Thr	
20															95
Glu	Ser	Tyr	Asn	Lys	Ala	Asp	Val	Ile	Ile	Ala	Asp	Pro	Tyr	Leu	Lys
25															110
Tyr	Gly	Asp	Asp	Pro	Tyr	Thr	Leu	Gln	Tyr	Gly	Gly	Cys	Ala	Met	Lys
30															125
Gly	Arg	Tyr	Ile	His	Phe	Thr	Pro	Asn	Phe	Leu	Leu	Asp	Ser	Ser	Leu
35															140
Ile	Lys	Val	Tyr	Gly	Glu	Arg	Gly	Arg	Val	Leu	Val	His	Glu	Trp	Ala
40															160
His	Thr	Ser	Val	Gly	Cys	Val	Xaa	Arg	Ile	Xaa	Xaa	Arg	Arg	Asn	Leu
45															175
Phe	Asp	Val	Ser	Glu	Asn	Ala	Arg	Val	Glu	Pro	Thr	Arg	Cys	Ser	Ala
50															190
Gly	Val	Thr	Trp	Xaa	Thr	Cys	Ile	Pro	Lys	Leu	Gln	Trp	Lys	Thr	Val
55															205
Tyr	Asp	Lys	Arg	Met	Pro	Ser	Met	Met	Val	Ser	Tyr	Met	Lys	Leu	Gly
60															220
Cys	Gly	Ile	Gly	Asn	Gly	Ser	Ser	Ile	Lys	Lys	Arg	Lys	Asn	Ser	Ile
65															240
Met	Tyr	Met	Gln	Ser	Leu	Pro	Ser	Val	Val	Glu	Ser	Val	Ile	Lys	Ile
70															255
Leu	Ile	Asn	Ser	Glu	Val	Gln	Asn	Met	Arg	Asn	Arg				
75															
260								265							

<210> 21

<211> 192

40 <212> PRT

<213> Gallus gallus

<400> 21

Met	Gly	Val	Phe	Arg	Ser	Leu	Ile	Phe	Leu	Leu	Ser	Phe	Gln	Leu	Leu
1															15
His	Val	Ala	Lys	Gly	Ser	Met	Val	Lys	Leu	Asn	Glu	Ser	Gly	Tyr	Glu
5															30
Gly	Leu	Val	Val	Ala	Ile	Asn	Pro	Ser	Val	Thr	Glu	Asp	Ala	Asn	Ile
10															45
Ile	Leu	Asn	Thr	Lys	Ala	Met	Ile	Lys	Asp	Ala	Ser	Asn	Tyr	Leu	Phe
15															60
Glu	Ala	Thr	Lys	His	Arg	Phe	Phe	Lys	Ser	Val	Lys	Ile	Ile	Leu	
20															80
Pro	Lys	Thr	Trp	Lys	Lys	Asn	Ser	Thr	Tyr	Ser	Arg	Leu	Lys	Thr	Glu
25															95
Ser	Tyr	Asn	Lys	Ala	Asp	Val	Ile	Ile	Ala	Asp	Pro	Tyr	Leu	Lys	Tyr
30															110
100								105							

Gly Asp Asp Pro Tyr Thr Leu Gln Tyr Gly Gly Cys Ala Met Lys Gly
 115 120 125
 Arg Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Asp Ser Ser Leu Ile
 130 135 140
 5 Lys Val Tyr Gly Glu Arg Gly Arg Val Phe Val His Glu Trp Ala His
 145 150 155 160
 Leu Arg Trp Gly Val Phe Asp Glu Tyr Asn Asn Asp Ala Pro Phe Tyr
 165 170 175
 Val Ser Glu Asn Ala Arg Val Glu Pro Thr Arg Cys Ser Ala Gly Val
 10 180 185 190

<210> 22
<211> 202
15 <212> PRT
<213> Salmo salar

<400> 22
Val Leu Leu Leu Val Tyr Leu Ser Gly Ser Thr Phe Gly Ile Lys Leu
20 1 5 10 15
Thr Gly Asn Gly Tyr Thr Asp Ile Leu Ile Ala Ile Asn Pro Val Val
 20 25 30
Pro Glu Asp Pro Val Leu Ile Thr Gln Ile Glu Glu Met Ile Lys Glu
 35 40 45
25 Ala Ser Arg His Leu Leu Asn Ala Thr Lys Lys His Leu Tyr Phe Lys
 50 55 60
Glu Val Ala Ile Leu Val Pro Pro Asn Trp Asn Lys Gly Asn Tyr Ser
 65 70 75 80
Lys Ala Lys Thr Glu Val Tyr Asn Lys Ala Asn Ile Ile Ile Asp Glu
30 85 90 95
Pro Asn Arg Leu His Gly Asp Gln Pro Tyr Thr Leu Gln Tyr Gly Glu
 100 105 110
Cys Gly Ser Glu Gly Gln Tyr Ile His Leu Thr Pro Asp Phe Met Leu
 115 120 125
35 Asn Asp Asp Val Ser Lys Tyr Tyr Gly Pro Arg Gly Lys Val Phe Val
 130 135 140
His Glu Trp Ala His Leu Arg Trp Gly Val Phe Asp Glu Tyr Asn Glu
 145 150 155 160
Glu Lys Pro Phe Tyr Leu Ser Gly Ser Ile Ile Glu Ala Thr Arg Cys
40 165 170 175
Thr Ile Asn Ile Thr Gly Lys Tyr Ile His Lys Arg Asp Gln Lys Asp
 180 185 190
Cys Thr Thr Asp Pro Val Thr Gly Leu Tyr
 195 200

45
<210> 23
<211> 202
<212> PRT
50 <213> Strongylocentrotus purpuratus
<220>
<221> MISC FEATURE
<222> (186)..(186)
<223> any natural amino acid residue
55 <220>
<221> MISC FEATURE
<222> (192)..(192)
<223> any natural amino acid residue

<400> 23

Asp	Val	Pro	Glu	Asp	Gln	Thr	Ile	Ile	Asp	Asn	Leu	Ile	Asp	Ile	Phe	
1					5				10						15	
5	Ser	Ser	Gly	Ser	Gly	His	Leu	Phe	Thr	Ala	Thr	Arg	Arg	Arg	Ala	Tyr
					20				25						30	
10	Trp	Arg	Asn	Ile	Thr	Ile	Leu	Ile	Pro	Lys	Thr	Trp	Thr	Pro	Lys	Pro
					35				40						45	
15	Glu	Tyr	Glu	Pro	Ala	Arg	Thr	Glu	Ser	Phe	Glu	Thr	Ala	Asn	Val	Ile
					50				55						60	
20	Ile	Asp	Thr	Ala	Asn	Pro	Glu	Trp	Glu	Asp	Asn	Pro	Tyr	Thr	Leu	Gln
					65				70						80	
25	Leu	Gly	Gly	Cys	Gly	Val	His	Gly	Glu	Tyr	Ile	His	Leu	Thr	Pro	Ser
					85				90						95	
30	Tyr	Ile	Thr	Asp	Arg	Ala	Asn	Ser	Glu	Tyr	Ile	Trp	Gly	Ser	Met	Gly
					100				105						110	
35	Lys	Leu	Leu	Ile	His	Glu	Trp	Gly	His	Leu	Arg	Trp	Gly	Leu	Phe	Asp
					115				120						125	
40	Glu	Tyr	His	Thr	Asp	Asp	Asp	Gly	Val	Gln	Lys	Phe	Tyr	Ala	Asp	Ser
					130				135						140	
45	Arg	Gly	Glu	Ile	Val	Ala	Thr	Arg	Cys	Thr	Asp	Gln	Leu	Asn	Gly	Glu
					145				150						160	
50	Ala	Leu	Asn	Ile	Asn	Thr	Phe	Ala	Pro	Cys	Gln	Arg	Asp	Arg	Asp	Thr
					165				170						175	
55	Gly	Leu	Tyr	Glu	Asp	Asp	Cys	Phe	Tyr	Xaa	Pro	Asp	Leu	Glu	Gly	Xaa
					180				185						190	
60	Thr	Ser	Pro	Gly	Ser	Ile	Met	Tyr	Ala	Gln						
					195				200							

<210> 24

<211> 192

<212> PRT

<213> Strongylocentrotus purpuratus

<400> 24

Gly	Arg	Ile	Leu	Met	Ser	Val	Val	Val	Cys	Cys	Leu	Val	Leu	Phe	Ser	
1					5				10						15	
40	Gly	Val	Ser	Gly	Ser	Asp	Leu	Arg	Asn	Ser	Ile	Thr	Ile	Gln	Asp	Gly
					20				25						30	
45	Gly	Tyr	Glu	Asn	Val	Leu	Ile	Ala	Ile	Asn	Lys	Asp	Val	Pro	Glu	Asp
					35				40						45	
50	Gln	Thr	Ile	Ile	Asp	Asn	Leu	Ile	Asp	Ile	Phe	Ser	Ser	Gly	Ser	Gly
					50				55						60	
55	His	Leu	Phe	Thr	Ala	Thr	Arg	Arg	Arg	Ala	Tyr	Trp	Arg	Asn	Ile	Thr
					65				70						80	
60	Ile	Leu	Ile	Pro	Lys	Thr	Trp	Thr	Pro	Lys	Pro	Glu	Tyr	Glu	Pro	Ala
					85				90						95	
65	Arg	Thr	Glu	Ser	Phe	Glu	Thr	Ala	Asn	Val	Ile	Ile	Asp	Thr	Ala	Asn
					100				105						110	
70	Pro	Glu	Trp	Glu	Asp	Asn	Pro	Tyr	Thr	Leu	Gln	Leu	Gly	Gly	Cys	Gly
					115				120						125	
75	Val	His	Gly	Glu	Tyr	Ile	His	Leu	Thr	Pro	Ser	Tyr	Ile	Thr	Asp	Arg
					130				135						140	
80	Ala	Asn	Ser	Glu	Tyr	Ile	Trp	Gly	Ser	Met	Gly	Lys	Leu	Leu	Ile	His
					145				150						160	
85	Glu	Trp	Ser	His	Leu	Arg	Trp	Gly	Leu	Phe	Asp	Glu	Tyr	His	Thr	Asp
					165				170						175	

Asp Asp Gly Val Gln Lys Phe Tyr Ala Asp Ser Arg Gly Val Arg Ser
 180 185 190

5 <210> 25
 <211> 131
 <212> PRT
 <213> Strongylocentrotus purpuratus

10 <400> 25
 Thr Ile Leu Leu Leu Glu Ile Phe Leu Val Glu Val Val Thr Gly Gln
 1 5 10 15
 Lys Asn Thr Ile Asn Leu Asn Asn Gly Ala Tyr Ser Asn Leu Leu Ile
 20 25 30
 15 Ala Ile Asp Lys Asn Val Ala Glu Asp Leu Asn Ile Ile Asp Asn Ile
 35 40 45
 Lys Thr Met Phe Thr Ser Ser Glu Arg Leu Tyr Leu Ala Ser Lys
 50 55 60
 Gln His Val Tyr Trp Lys His Ile Lys Ile Leu Val Pro Asn Thr Trp
 20 70 75 80
 Ser Ile Gln Ser Gly Tyr Gln Phe Ser Arg Thr Glu Thr Leu Glu Ser
 85 90 95
 Ala Asn Ile Ile Leu His Asn Phe His Asp Asp Glu Pro Phe Val Asp
 100 105 110
 25 Asn Leu Ala Gly Cys Gly Lys Glu Gly Thr Leu Met His Met Thr Pro
 115 120 125
 Gly Tyr Ile
 130

30 <210> 26
 <211> 203
 <212> PRT
 <213> Xenopus tropicalis

35 <400> 26
 Ala Ser Ser Tyr Leu Phe Gln Ala Thr Lys Lys Arg Leu Tyr Ile Arg
 1 5 10 15
 Ser Ala Lys Ile Leu Ile Pro Asn Thr Trp Ala Thr Asn Ser Ser Tyr
 40 20 25 30
 Gly Arg Pro Lys Leu Glu Ser Tyr Asp Lys Ala Asp Val Ile Val Ala
 35 40 45
 Pro Pro Phe Val Gln Gly Asp Asp Pro Tyr Thr Leu Gln Phe Gly Gly
 50 55 60
 45 Cys Gly Glu Lys Gly Lys Tyr Ile His Phe Thr Pro Asn Phe Leu Val
 65 70 75 80
 Asn Asp Glu Lys Met Leu Pro Ile Tyr Gly Pro Arg Gly Arg Val Phe
 85 90 95
 Val His Glu Trp Ala His Phe Arg Trp Gly Val Phe Asp Glu Tyr Asn
 50 100 105 110
 Tyr Asn Arg Pro Tyr Tyr Phe Ser Glu Asn Arg Lys Val Glu Ala Thr
 115 120 125
 Arg Cys Pro Leu Lys Leu Lys Gly Leu Asn Leu Ile Asp Val Cys Gln
 130 135 140
 55 Arg Gly Val Cys Asn Leu Glu Pro Cys Glu Tyr Asp Lys Asn Thr Gly
 145 150 155 160
 Leu Tyr Glu Glu Asp Cys Lys Phe Tyr Pro Asp Arg Asp Ile Leu Val
 165 170 175

Glu Glu Ser Val Met Tyr Ala Gln Met Phe Glu Pro Val His Ala Phe
 180 185 190
 Cys Asp Ser Ser Ser His Asn Ser Glu Ala Pro
 5 195 200

<210> 27
<211> 108
10 <212> PRT
<213> Xenopus laevis

<400> 27
Asp Ser Leu Val Gln Leu Lys Asn Asn Gly Tyr Glu Asp Ile Ile Ile
15 1 5 10 15
Ala Val Asn Pro Glu Val Pro Glu Asp Gly Lys Ile Ile Glu Gln Ile
20 20 25 30
Lys Lys Met Leu Thr Asp Ala Ser Ser Tyr Leu Phe Gln Ala Thr Lys
35 35 40 45
20 Lys Arg Ile Tyr Ile Arg Ser Ala Lys Ile Leu Ile Pro Asn Ser Trp
50 50 55 60
Thr Ser Asn Ser Ser Tyr Gly Arg Pro Lys Leu Glu Ser Tyr Asp Lys
65 65 70 75 80
Ala Asp Val Ile Val Ala Ser Pro Phe Ile His Gly Asp Asp Pro Tyr
25 25 85 90 95
Thr Leu Pro Val Trp Arg Leu Trp Arg Lys Gly Lys
100 105

30 <210> 28
<211> 124
<212> PRT
<213> Xenopus laevis

35 <400> 28
Ala Thr Arg Cys Pro Leu Lys Met Gln Gly Ser Tyr Leu Ile Glu Val
1 1 5 10 15
Cys Gln Arg Gly Ile Cys Asn Leu Glu Ala Cys Glu Tyr Asp Glu Asn
20 20 25 30
40 Thr Gly Leu Tyr Glu Glu Asp Cys Lys Phe Tyr Pro Lys Met Asp Ser
35 35 40 45
Asn Val Glu Glu Ser Val Met Tyr Ala Gln Met Met Glu Pro Val His
50 50 55 60
Ala Phe Cys Asn Ser Ser His Asn Ser Glu Ala Pro Asn Gln Gln
45 65 65 70 75 80
Asn Arg Leu Cys Ser Gln Gln Ser Thr Trp Asp Val Ile Ser Lys Ser
85 85 90 95
Ser Asp Ile Gln Ser Ser Pro Pro Leu Met Asp Ser Asn Ile Pro Ala
100 100 105 110
50 Pro Val Val Ser Leu Leu Gln Tyr Lys Asp Arg Val
115 120

5 <210> 29
 <211> 96
 <212> PRT
 <213> Xenopus tropicalis

10 <400> 29
Asp Ser Leu Val Gln Leu Lys Asn Asn Gly Tyr Glu Asp Ile Ile Ile
1 5 10 15
Ala Val Asn Pro Gln Val Pro Glu Asp Gly Lys Ile Ile Glu Asn Ile
10 20 25 30
Lys Lys Met Leu Thr Asp Ala Ser Ser Tyr Leu Phe Gln Ala Thr Lys
35 35 40 45
Lys Arg Leu Tyr Ile Arg Ser Ala Lys Ile Leu Ile Pro Asn Thr Trp
50 50 55 60
15 Ala Thr Asn Ser Ser Tyr Gly Arg Pro Lys Leu Glu Ser Tyr Asp Lys
65 65 70 75 80
Ala Asp Val Ile Val Ala Pro Pro Phe Val Gln Arg Asp Asp Pro Tyr
85 85 90 95

20 <210> 30
 <211> 201
 <212> PRT
 <213> Rattus norvegicus

25 <400> 30
Gly Arg Asp Glu Pro Tyr Thr Arg Gln Phe Thr Lys Cys Gly Lys Lys
1 5 10 15
Ala Glu Tyr Ile His Phe Thr Pro Asp Phe Val Leu Gly Arg Lys Gln
30 20 25 30
Lys Glu Tyr Gly Asp Ser Gly Arg Leu Leu Val His Glu Trp Ala His
35 35 40 45
Leu Arg Trp Gly Val Phe Asp Glu Tyr Asn Glu Asp Gln Pro Phe Tyr
50 50 55 60
35 Ser Ala Ser Ser Lys Lys Ile Glu Ala Thr Arg His Val Leu Thr Pro
65 65 70 75 80
Lys Cys Ser Thr Gly Ile Lys Gly Met Asn Lys Ala Gln Val Cys Gln
85 85 90 95
40 Gly Gly Ser Cys Ile Thr Arg Asn Cys Arg Arg Asn Ser Thr Thr Gln
100 100 105 110
Leu Tyr Glu Lys Asp Cys Gln Phe Phe Pro Asp Lys Val Gln Thr Glu
115 115 120 125
Lys Ser Ser Ile Met Phe Met Gln Ser Ile Asp Ser Val Thr Glu Phe
130 130 135 140
45 Cys Lys Lys Glu Asn His Asn Arg Glu Ala Pro Thr Leu His Asn Gln
145 145 150 155 160
Lys Cys Asp Tyr Arg Ser Thr Trp Glu Val Ile Ser Asn Ser Glu Asp
165 165 170 175
50 Phe Lys Asn Ser Thr Pro Met Glu Met Pro Pro Ser Pro Pro Phe Phe
180 180 185 190
Ser Leu Leu Arg Ile Ser Glu Arg Ile
195 195 200

<210> 31
 <211> 333
 <212> PRT
 <213> Rattus norvegicus

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<400> 31
 Val Lys Ser Ser Lys Val His Leu Asn Asn Asn Gly Tyr Glu Gly Val
 1 5 10 15
 Val Ile Ala Ile Asn Pro Ser Val Pro Glu Asp Glu Arg Leu Ile Pro
 10 20 25 30
 Ser Leu Lys Ala Lys Cys Leu Gly Arg Ser Gly Val Leu Ser Gly Ala
 15 35 40 45
 Glu Asn His Glu Leu Ser Ser Arg Ala Leu Cys Cys Trp Gly Cys Phe
 20 50 55 60
 Gly Phe Leu Ala Val Pro His Asn Ala Ala Tyr Thr Ala Asp His Lys
 25 65 70 75 80
 Gly Asn Gln Ala Asp Val Ile Val Ala Asp Pro His Leu Lys Tyr Gly
 30 85 90 95
 Asp Asp Pro Tyr Thr Leu Gln Tyr Gly Gln Cys Gly Asp Arg Gly Gln
 35 100 105 110
 Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Ile Asp Asn Leu Ile Ile
 40 115 120 125
 Tyr Gly Pro Arg Gly Arg Val Phe Val His Glu Trp Ala His Leu Arg
 45 130 135 140
 Trp Gly Val Phe Asp Glu Tyr Asn Lys Glu Arg Pro Phe Tyr Leu Ser
 50 145 150 155 160
 Arg Lys Asn Val Val Glu Ala Thr Arg Cys Ser Thr Asp Ile Thr Gly
 55 165 170 175
 Thr Asn Val Val His Glu Cys Gln Gly Gly Ser Cys Val Thr Arg Lys
 60 180 185 190
 Cys Arg Arg Asp Ser Lys Thr Gly Leu Pro Glu Pro Lys Cys Thr Phe
 65 195 200 205
 Ile Pro Asn Lys Ser Gln Thr Ala Arg Ala Ser Ile Met Phe Leu Gln
 70 210 215 220
 Ser Leu Asp Ser Arg Arg Met Ile Phe Tyr Gly Gly Ile Lys Lys Cys
 75 225 230 235 240
 Val Leu Asn Lys Arg Gln Glu Met Gly Leu Asn Leu Gln Ser Tyr Lys
 80 245 250 255
 Ala Arg Val Leu Gly Phe Ser Pro Leu Tyr Phe Gly Arg Met Val Val
 85 260 265 270
 Glu Phe Cys Thr Glu Lys Thr His Asn Thr Glu Ala Pro Asn Leu Gln
 90 275 280 285
 Asn Lys Ile Cys Asn Gly Arg Ser Thr Trp Asp Val Ile Lys Glu Ser
 95 290 295 300
 Ala Asp Phe Gln His Ala Pro Pro Met Arg Gly Thr Glu Ala Pro Pro
 100 305 310 315 320
 Pro Pro Thr Phe Ser Leu Leu Lys Ser Arg Gln Arg Val
 105 325 330

50

<210> 32
 <211> 335
 <212> PRT
 <213> Rattus norvegicus

55

<400> 32
 Met Val Pro Val Leu Lys Val Leu Leu Phe Leu Thr Leu His Leu Leu
 1 5 10 15

Gln Asp Thr Lys Ser Phe Lys Val His Leu Asn Asn Asn Gly Tyr Glu
 20 25 30
 Gly Val Val Ile Ala Ile Asn Pro Ser Val Pro Glu Asp Glu Arg Leu
 35 40 45
 5 Ile Pro Ser Leu Lys Glu Met Val Thr Gln Ala Ser Thr Tyr Leu Phe
 50 55 60
 Glu Ala Ser Gln Gly Arg Phe Tyr Phe Arg Asn Val Ser Ile Leu Val
 65 70 75 80
 Pro Met Thr Trp Lys Ser Lys Ser Glu Tyr Leu Met Pro Lys Arg Glu
 10 85 90 95
 10 Ser Tyr Asp Lys Ala Asp Val Ile Val Ala Asn Ser His Leu Lys Tyr
 100 105 110
 Gly Asp Asn Pro Tyr Thr Leu Gln Tyr Gly Gln Cys Gly Asp Arg Gly
 115 120 125
 15 Arg Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Thr Asp Asn Val Arg
 130 135 140
 Asn Tyr Gly Pro Arg Gly Arg Val Phe Val His Glu Trp Ala His Leu
 145 150 155 160
 Arg Trp Gly Val Phe Asp Glu Tyr Asn Glu Asp Arg Pro Phe Tyr Ile
 20 165 170 175
 Ser Gly Lys Asn Thr Ile Glu Val Thr Arg Tyr Leu Cys Glu Leu Ser
 210 215 220
 25 Val Gln Val Thr Gly Cys Ser Thr Asp Ile Lys Gly Ser Lys Ala Val
 220 225 230 235 240
 His Glu Arg Gln Arg Gly Ser Asp Val Thr Arg Leu Cys Arg Trp Asp
 245 250 255
 Ser Arg Thr Gly Leu Tyr Glu Pro Lys Cys Lys Phe Phe Pro Asp Lys
 260 265 270
 30 Ile Gln Thr Ala Arg Ala Ser Ile Met Phe Met Gln Asn Leu Asn Ser
 275 280 285
 Val Val Glu Phe Cys Thr Glu Lys Thr His Asn Thr Glu Ala Pro Asn
 290 295 300
 35 Leu Gln Asn Lys Ile Cys Asn Gly Arg Ser Thr Trp Asp Val Ile Lys
 305 310 315 320
 Glu Ser Ala Asp Phe Gln Gln Ala Pro Pro Met Arg Gly Thr Glu Ala
 325 330 335
 40 Pro Pro Pro Pro Thr Phe Ser Leu Leu Lys Ser Arg Gln Arg Val

<210> 33
 <211> 307
 45 <212> PRT
 <213> Rattus norvegicus.

<400> 33
 Met Gly Ser Leu Lys Ser Pro Val Phe Leu Leu Val Leu Tyr Leu Leu
 50 1 5 10 15
 Glu Gly Val Leu Ser Asn Ser Leu Ile Gln Leu Asn Asn Asn Gly Tyr
 20 25 30
 Glu Gly Ile Val Ile Ala Ile Asp His Asp Val Pro Glu Asp Glu Ala
 35 40 45
 55 Leu Ile Gln Arg Ile Lys Asp Met Val Thr Gln Ala Ser Pro Tyr Leu
 50 55 60
 Phe Glu Ala Thr Gly Lys Arg Phe Tyr Phe Lys Asn Val Ala Ile Leu
 65 70 75 80

Ile Pro Glu Asn Trp Asn Thr Lys Pro Glu Tyr Lys Arg Pro Lys Leu
 85 90 95
 Glu Thr Leu Lys Asn Ala Asp Val Leu Val Ser Thr Met Ser Pro Ile
 100 105 110
 5 Gly Asn Asp Glu Pro Tyr Thr Glu His Ile Gly Ala Cys Gly Glu Arg
 115 120 125
 Gly Ile Arg Ile His Leu Thr Pro Asp Phe Leu Ala Gly Lys Lys Gln
 130 135 140
 Thr Glu Tyr Gly Pro Gln Asp Arg Thr Phe Val His Glu Trp Ala His
 10 145 150 155 160
 Phe Arg Trp Gly Val Phe Asp Glu Tyr Asn Asn Asn Glu Lys Phe Tyr
 165 170 175
 Leu Ser Asn Gly Lys Pro Gln Ala Val Arg Cys Ser Ala Thr Ile Thr
 180 185 190
 15 Gly Lys His Val Val Arg Arg Cys Gln Gly Gly Ser Cys Val Thr Asn
 195 200 205
 Gly Lys Cys Val Ile Asp Arg Val Thr Gly Leu Tyr Lys Asp Asn Cys
 210 215 220
 Val Phe Ile Pro Asp Lys Asn Gln Arg Glu Lys Ala Ser Ile Met Phe
 20 225 230 235 240
 Asn Gln Asn Ile Asn Ser Val Val Glu Phe Cys Thr Glu Lys Asn His
 245 250 255
 Asn Lys Glu Ala Pro Asn Ala Gln Asn Gln Arg Cys Asn Leu Arg Ser
 260 265 270
 25 Thr Trp Glu Val Ile Gln Glu Ser Glu Asp Phe Lys Gln Thr Thr Pro
 275 280 285
 Met Thr Ala Gln Pro Pro Ala Pro Thr Phe Ser Leu Leu Gln Thr Arg
 290 295 300
 Gln Arg Ile
 30 305

<210> 34
<211> 279
35 <212> PRT
<213> Rattus norvegicus
<400> 34
Leu Lys Leu Lys Glu Asn Gly Tyr Asp Gly Leu Leu Val Ala Ile Asn
40 1 5 10 15
Pro Arg Val Pro Glu Asp Leu Lys Leu Ile Arg Asn Ile Gln Glu Met
20 25 30
Ile Thr Glu Ala Ser Phe Tyr Leu Phe Asn Ala Thr Lys Arg Arg Val
35 40 45
45 Phe Phe Arg Ser Val Gln Ile Leu Ile Pro Ala Thr Trp Thr Ala His
50 55 60
Asn Tyr Ser Arg Val Lys Gln Glu Ser Phe Asp Lys Ala Asn Val Leu
65 70 75 80
Val Thr Glu Gln Asn Gly Val Pro Gly Glu Asp Pro Tyr Thr Leu Gln
50 85 90 95
His Arg Gly Cys Gly Gln Glu Gly Lys Tyr Ile His Phe Thr Pro Asn
100 105 110
Phe Leu Leu Asn Asp Glu Leu Ala Ala Gly Tyr Gly Ser Arg Gly Arg
115 120 125
55 Val Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe Asp Glu
130 135 140
Tyr Asn Ser Asp Lys Pro Phe Tyr Val Asn Gly Arg Asn Glu Ile Gln
145 150 155 160

Val Thr Arg Cys Ser Ser Asp Ile Thr Gly Val Phe Val Cys Glu Lys
 165 170 175
 Gly Leu Cys Pro His Glu Asp Cys Ile Ile Ser Lys Leu Phe Arg Glu
 180 185 190
 5 Gly Cys Thr Phe Leu Tyr Asn Ser Thr Gln Ser Ala Thr Gly Ser Ile
 195 200 205
 Met Phe Met Gln Ser Leu Pro Ser Val Val Glu Phe Cys Asn Glu Gly
 210 215 220
 Thr His Asn Arg Glu Ala Pro Asn Leu Gln Asn Arg Val Cys Ser Leu
 10 225 230 235 240
 Arg Ser Thr Trp Asp Val Ile Thr Gly Ser Ser Asp Leu Asn His Ser
 245 250 255
 Leu Pro Val Leu Gly Val Glu Leu Pro Ala Pro Pro Ser Phe Ser Leu
 260 265 270
 15 Leu Gln Ala Gly Asp Arg Val
 275

<210> 35
 20 <211> 246
 <212> PRT
 <213> Rattus norvegicus

<400> 35
 25 Met Gly Phe Ser Arg Gly Ile Val Phe Leu Leu Leu Tyr Leu Leu
 1 5 10 15
 Gln Gly Ser Asp Thr Ser Leu Val Lys Leu Asn Glu Asn Gly Tyr Glu
 20 25 30
 Asp Ile Ile Ile Ala Ile Asp Pro Ala Val Ser Glu Asp Val Thr Ile
 30 35 40 45
 Ile Asp Gln Ile Lys Asp Met Val Thr Lys Ala Ser Ala Tyr Leu Phe
 50 55 60
 Glu Ala Thr Glu Lys Arg Phe Phe Lys Asn Val Ser Ile Leu Ile
 65 70 75 80
 35 Pro Glu Asn Trp Thr Asn Ser Asp Gln Tyr Arg Arg Pro Lys Gln Glu
 85 90 95
 Ser Tyr Lys His Ala Asp Ile Lys Val Ala Pro Pro Ala Leu Gln Gly
 100 105 110
 Arg Asp Glu Pro Tyr Thr Arg Gln Phe Thr Lys Cys Gly Lys Lys Ala
 40 115 120 125
 Glu Tyr Ile His Phe Thr Pro Asp Phe Val Leu Gly Arg Lys Gln Lys
 130 135 140
 Glu Tyr Gly Asp Ser Gly Arg Leu Leu Val His Glu Trp Ala His Leu
 145 150 155 160
 45 Arg Trp Gly Val Phe Asp Glu Tyr Asn Glu Asp Gln Pro Phe Tyr Ser
 165 170 175
 Ala Ser Ser Lys Lys Ile Glu Ala Thr Arg Cys Ser Thr Gly Ile Lys
 180 185 190
 Gly Met Asn Lys Ala Gln Val Cys Gln Gly Gly Ser Cys Ile Thr Arg
 50 195 200 205
 Asn Cys Arg Arg Asn Ser Thr Thr Gln Leu Tyr Glu Lys Asp Cys Gln
 210 215 220
 Phe Phe Pro Asp Lys Val Gln Thr Glu Lys Ser Ser Ile Met Phe Met
 225 230 235 240
 55 Gln Ser Ile Asp Ser Val
 245

<210> 36
<211> 308
<212> PRT
<213> Rattus norvegicus

5

<400> 36
Met Val Pro Val Leu Lys Val Leu Leu Phe Leu Thr Leu His Leu Leu
1 5 10 15
Gln Asp Thr Lys Ser Phe Lys Val His Leu Asn Asn Asn Gly Tyr Glu
10 20 25 30
Gly Val Val Ile Ala Ile Asn Pro Ser Val Pro Glu Asp Glu Arg Leu
35 40 45
Ile Pro Ser Leu Lys Glu Met Val Thr Gln Ala Ser Thr Tyr Leu Phe
50 55 60
15 Glu Ala Ser Gln Gly Arg Phe Tyr Phe Arg Asn Val Ser Ile Leu Val
65 70 75 80
Pro Met Thr Trp Lys Ser Lys Ser Glu Tyr Leu Met Pro Lys Arg Glu
85 90 95
Ser Tyr Asp Lys Ala Asp Val Ile Val Ala Asn Ser His Leu Lys Tyr
20 100 105 110
Gly Asp Asn Pro Tyr Thr Leu Gln Tyr Gly Gln Cys Gly Asp Arg Gly
115 120 125
Arg Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Thr Asp Asn Val Arg
130 135 140
25 Asn Tyr Gly Pro Arg Gly Arg Val Phe Val His Glu Trp Ala His Leu
145 150 155 160
Arg Trp Gly Val Phe Asp Glu Tyr Asn Glu Asp Arg Pro Phe Tyr Ile
165 170 175
Ser Gly Lys Asn Thr Ile Glu Val Thr Arg Cys Ser Thr Asp Ile Lys
30 180 185 190
Gly Ser Lys Ala Val His Glu Arg Gln Arg Gly Ser Asp Val Thr Arg
195 200 205
Leu Cys Arg Trp Asp Ser Arg Thr Gly Leu Tyr Glu Pro Lys Cys Lys
210 215 220
35 Phe Phe Pro Asp Lys Ile Gln Thr Ala Arg Ala Ser Ile Met Phe Met
225 230 235 240
Gln Asn Leu Asn Ser Val Val Glu Phe Cys Thr Glu Lys Thr His Asn
245 250 255
Thr Glu Ala Pro Asn Leu Gln Asn Lys Ile Cys Asn Gly Arg Ser Thr
40 260 265 270
Trp Asp Val Ile Lys Glu Ser Ala Asp Phe Gln Gln Ala Pro Pro Met
275 280 285
Arg Gly Thr Glu Ala Pro Pro Pro Thr Phe Ser Leu Leu Lys Ser
290 295 300
45 Arg Gln Arg Val
305

50 <210> 37
<211> 162
<212> PRT
<213> Homo sapiens

<400> 37

55 Asp Pro Asn Val Pro Glu Asp Glu Thr Leu Ile Gln Gln Ile Lys Asp
1 5 10 15
Met Val Thr Gln Ala Ser Leu Tyr Leu Phe Glu Ala Thr Gly Lys Arg
20 25 30

Phe Tyr Phe Lys Asn Val Ala Ile Leu Ile Pro Glu Thr Trp Lys Thr
 35 40 45
 Lys Ala Asp Tyr Val Arg Pro Lys Leu Glu Thr Tyr Lys Asn Ala Asp
 50 55 60
 5 Val Leu Val Ala Glu Ser Thr Pro Pro Gly Asn Asp Glu Pro Tyr Thr
 65 70 75 80
 Glu Gln Met Gly Asn Cys Gly Glu Lys Gly Glu Arg Ile His Leu Thr
 85 90 95
 10 Pro Asp Phe Ile Ala Gly Lys Lys Leu Ala Glu Tyr Gly Pro Gln Gly
 100 105 110
 Lys Ala Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe Asp
 115 120 125
 Glu Tyr Asn Asn Asp Glu Lys Phe Tyr Leu Ser Asn Gly Arg Ile Gln
 130 135 140
 15 Ala Val Arg Cys Ser Ala Gly Ile Thr Gly Thr Asn Val Val Lys Lys
 145 150 155 160
 Cys Gln

20
 <210> 38
 <211> 31
 <212> DNA
 <213> Artificial Sequence
 25 <220>
 <223> synthetically generated oligonucleotide
 <400> 38
 atgtcgacca tatgattcaa caaataaaagg a 31
 30
 <210> 39
 <211> 33
 <212> DNA
 35 <213> Artificial Sequence
 <220>
 <223> synthetically generated oligonucleotide
 <400> 39
 40 atgcggccgc tcacttcttt actacatgg tac 33
 <210> 40
 <211> 27
 45 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> synthetically generated oligonucleotide
 50 <400> 40
 catatgtcac tcattcagct gaacaac 27
 <210> 41
 55 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
<223> synthetically generated oligonucleotide

5 <400> 41
catatggaaag atgaaaacact cattc 25

10 <210> 42
<211> 32
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetically generated oligonucleotide

15 <400> 42
gcggcccgctc acttctttac tacatttgta cc 32

20 <210> 43
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetically generated oligonucleotide

25 <400> 43
gcggcccgctc acttgtttgg agcttctttg 30

30 <210> 44
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
35 <221> MISC_FEATURE
<222> (1)..(1)
<223> (7-methoxy-coumarin-4-yl)acetyl or Mca
<220>
<221> MISC_FEATURE
40 <222> (6)..(6)
<223> (2,4-dinitrophenyl)-L-2,3-diaminopropionyl or Dpa

<400> 44
Xaa Lys Ala Met His Xaa
45 1 5.